

**MULTI AGENCY COORDINATION COMMITTEE
FOR COMBUSTION RESEARCH (MACCCR)**

FUELS RESEARCH REVIEW

**Gaithersburg MD
8-10 September 2008**

MONDAY, 8 SEPTEMBER

- 8:00 - 8:30 OPENING REMARKS
- 8:30 - 1:00 (MURI 2007) Generation of Comprehensive Surrogate Kinetic Models and Validation Data Bases for Simulating Large Molecular Weight Hydrocarbon Fuels
Frederick Dryer, Princeton University
Yiguang Ju, Princeton University
Henry Curran, Princeton University
Kenneth Brezinsky, University of Illinois, Chicago
Thomas Litzinger, Pennsylvania State University
Robert Santoro, Pennsylvania State University
Chih-Jen Sung, Case Western Reserve University
- 1:00 - 1:45 LUNCH
- 1:45 - 6:00 Development of Detailed and Reduced Mechanisms for Surrogates of Petroleum-Derived and Synthetic Jet Fuels
Fokion Egolfopoulos, University of Southern California
Hai Wang, University of Southern California
Chung King Law, Princeton University
Ronald Hanson, Stanford University
Heinz Pitsch, Stanford University
Craig Bowman, Stanford University
Nicholas Cernansky, Drexel University
David Miller, Drexel University

TUESDAY, 9 SEPTEMBER

- 8:00 - 8:15 Announcements
- 8:15 - 8:45 Air Force Future Fuel Utilization
James Tim Edwards, AFRL/RZ
- 8:45 - 9:15 Biofuels Research at the USDA
Robert Fireovid, United States Department of

Agriculture

- 9:15 - 9:45 (MURI) Biosolar H₂ Generation
G. Charles Dismukes, Princeton University
- 9:45 - 10:15 Algal Oil for Jet Fuel Production
Richard Sayre, Ohio State University
- 10:15 – 10:45 BREAK
- 10:45 – 11:15 Algal Oil for Jet Fuel Production
Al Darzins, National Renewable Energy Laboratory
- 11:15 – 11:45 New Paradigm in Modeling and Simulation of Complex Oxidation Chemistry
Josette Bellan, Jet Propulsion Laboratory
- 11:45 - 12:15 Thermodynamic, Transport, and Chemical Properties Of “Reference” JP-8
Thomas Bruno, National Institute of Standards and Technology
- 12:15 – 12:45 Fuels Research at the German Aerospace Center (DLR)
Marina Braun-Unkhoff
- 12:45 - 1:45 LUNCH
- 1:45 - 2:15 An Automated Process for Generation of New Fuel Breakdown Mechanisms
Angela Violi, University of Michigan
- 2:15 - 2:45 The Decomposition of Surrogate Fuel Molecules During Combustion
Wing Tsang, National Institute of Standards and Technology
- 2:45 - 3:15 Supercritical Fuel Pyrolysis
Mary J. Wornat, Louisiana State University
- 3:15 - 3:45 Preignition Chemistry of Xylenes and Their Effect on JP-8 Surrogates
Nicholas Cernansky, Drexel University
- 3:45 - 4:15 BREAK
- 4:15 - 4:45 Fundamental Combustion Properties of a Fischer-Tropsch Jet Fuel
Chih-Jen Sung, Case Western Reserve University
- 4:45 - 5:15 (YIP) Experimental Study of the Oxidation, Ignition, and Soot Formation Characteristics of Jet Fuel

Matthew Oehlschlaeger, Rensselaer Polytechnic Institute

- 5:15 - 5:45 Computational and Experimental Studies of Jet Fuel Combustion
Mitchell Smooke, Yale University

WEDNESDAY, 10 SEPTEMBER

- 8:15 - 8:30 Announcements
- 8:30 - 9:00 Detailed and Simplified Chemical Kinetics of Aviation Fuels and Surrogates
Peter Lindstedt, Imperial College of Science, Technology and Medicine
- 9:00 - 9:30 Experimental and Modeling Studies of the Combustion Characteristics of F-T Fuels
Ellen Meeks, Reaction Design
- 9:30 – 10:00 Experimental Studies of Coal and Biomass Fuel Synthesis and Flame Characterization for Aircraft Engines
Rakesh Agrawal, Purdue University
- 10:00 – 10:30 Development of PrIMe Cyber Infrastructure for Combustion Community
Michael Frenklach, University of California, Berkeley
- 10:30 – 11:00 BREAK
- 11:00 – 11:30 Experimental Studies of RP-2 Thermal Stability: Heat Transfer, Coking, and Corrosion
Matt Billingsley, AFRL/RZSA
- 11:30 - 12:00 Thermophysics of Neat and Stabilized RP-2: Studies in Thermophysical and Kinetic Properties to Facilitate Modeling
Thomas Bruno, National Institute of Standards and Technology
- 12:00 - 12:30 Shock Tube Study of High Temperature decomposition of Rocket Kerosenes
Ronald Hanson, Stanford University
- 12:30 - 1:00 Technical and Sociological Aspects of Qualifying Future Alternative Fuels for Use in Aircraft
George Wilson, Southwest Research Institute
- 1:00 – 1:45 LUNCH

1:45 - 3:00 Discussion

3:00 - 3:30 BREAK

3:30 - 5:00 Tour of NIST Laboratory Facilities

5:00 ADJOURN